



Questions and Answers Technical Webinar: Reducing Radon in Schools

(July 18, 2012)

- [General](#)
- [Testing](#)
- [Mitigation](#)

General

Q: Where are the areas of greatest risk across the country?

A: EPA has identified areas of the U.S. with the potential for elevated indoor radon levels, which have been labeled according to zone in a map (Zone 1 posing the highest potential). Please note that this map is not intended to be used to determine if a building in a given zone should be tested for radon. Buildings with elevated levels of radon have been found in all three zones. All buildings should be tested regardless of geographic location. To view a U.S. map with the identified zones, please visit <http://www.epa.gov/radon/zonemap.html>.

Testing

Q: Does EPA have a database for school testing results? I am looking for data showing whether or not newly constructed schools have shown high indoor radon concentrations.

A: EPA does not have a database for school data, but your state radon program may have this information. To locate and receive contact information for your state's radon program, please visit <http://www.epa.gov/radon/whereyoulive.html>.

Q: Once a school has been tested and the results indicate that it does not have any spaces with radon levels above 4 pCi/L (EPA's action level), is there any reason to retest that building in the future if no changes have been made to it?

A: Yes, our recommendation is that buildings should be retested every five years even if no structural, design or other changes have been made. As buildings age and are maintained, changes in the heating, ventilation and air conditioning (HVAC) system can affect the build, which in turn, will change the way radon enters the building.

Q: Does short-term testing ever underestimate radon concentrations?

A: This can be a concern if testing is completed during a season that may garner lower indoor radon levels. Based on our best practices, we recommend that all short-term tests be completed during the heating season, which yields the highest radon levels in our area. For more information, view our best practices guidelines at <http://www.health.state.mn.us/divs/eh/indoorair/schools/radonschool.html>.

Q: Are there instruments available that measure alpha activity at a low enough level to try to determine where radon may be entering a building instantaneously?

A: Radon sniffers are pieces of equipment that take short grab samples of air and measure for radon; however, these short time periods are only helpful in diagnosing why a mitigation system might not be working. A Continuous Radon Monitor (CRM) located in a potential source area is a better tool for tracking down where radon may be entering the building.

Mitigation

Q: Can you explain the vent stack on the roof that is apparent on slide 49 of the webinar presentation?

A: The image of the stack on the roof, which is on slide 49 of the presentation, has some extra bends in order to create a condensation trap so that the condensate can bypass the fan. To bring it to the residential side of things, in Minnesota, we rarely use those condensation offsets at all. We just vent it straight through, so it looks like nothing more than like a plumbing stack. However, if you do have larger vent pipe, you might have things falling in it. Therefore, precautions should be taken to ensure that the fan runs all the time and that it isn't blocked by anything.

Q: Is it wise to maintain positive pressure in a building to ensure radon levels remain low?

A: Positive pressure in a building can keep radon from entering; however, depending on the climate, it might not be the best solution because pressurizing a building can create mold problems in some climates.

Q: Is there a recommended minimum horsepower vacuum to use?

A: The only way to recommend a radon fan is after doing Pressure Field Extension (PFE) testing. There are two main types of radon fans: fans that can move a lot of air and high pressure fans that can “suck” air hard. The sub-slab material will determine which type of fan is best. In general, sub-slab gravel will require a high flow fan, and sub-slab fine sand or clay will require a high static pressure fan.

Q: Do you get a lot of questions about using High-Efficiency Particulate Air (HEPA) or carbon filters to reduce radon levels?

A: No, we don't get a lot of these questions, because radon is a noble gas and would not be filtered out by a High Efficiency Particulate Filter. Filtering is not the solution for radon; if you have really high radon levels, filtering can inadvertently create other problems that you don't want to deal with.

Q: Are you allowed to have the fan in the attic or does it have to go outside?

A: The fan needs to be located in an unconditioned area so that if the fan or fan couplings leak, the high radon levels that would be released are vented out of the building. Most schools do not have unconditioned attics, so the fans are usually located on the roof.

Q: Can you pull air from the hallway as long as the areas in the classrooms are stem walled open?

A: This can only be determined through PFE. In most schools that we have worked on, the sub- slab radon systems are able to move air under the slab even with footings.

Q: *What do we use to seal cracks with?*

A: Polyurethane or expanding spray foam or concrete are used to seal cracks to create a long lasting, durable bond. We shy away from silicone, because silicone is only a temporary fix.

Q: *Can a heat recovery ventilator be used as a radon mitigation method?*

A: A Heat Recovery Ventilator (HRV) can be used as a mitigation method as long as the unit is cleaned and maintained on a regular basis. If the air intakes of the HRV get clogged, which they will, the HRV will turn into an exhaust fan and increase the radon levels.

Q: *If only one classroom in a building is identified as having high radon levels, do you install a mitigation system to only that classroom or install various systems throughout the building?*

A: Only the classrooms that tested high for radon should be mitigated.